

The data, analysis, and discussion presented in this appendix were prepared by NPS staff to illustrate visitor volume trends. These trends are useful for identifying the degree to which rehabilitation of Going-to-the-Sun Road may impact visitors by month of year, day of week, and time of day.

Data from the past ten years show that visitation peaks have remained constant with no signs of spreading (Figure H-1: Multi-year Comparison of Visitor Vehicles Entering the Park, by Month). The important finding illustrated by this figure is that all the data series overlap each other: regardless of how high the peak is, the shape of the curve is the same for every year. For the years depicted, the month of July sets the peak number of visitors in the park at one time. The month of August has historically either matched the July peak level or visitation has begun declining for the winter. From the consistency in the shape of the curves, Glacier can predict with high reliability when the peak season will begin and end. Construction scheduled in the shoulder seasons should encounter predictable numbers of visitors.

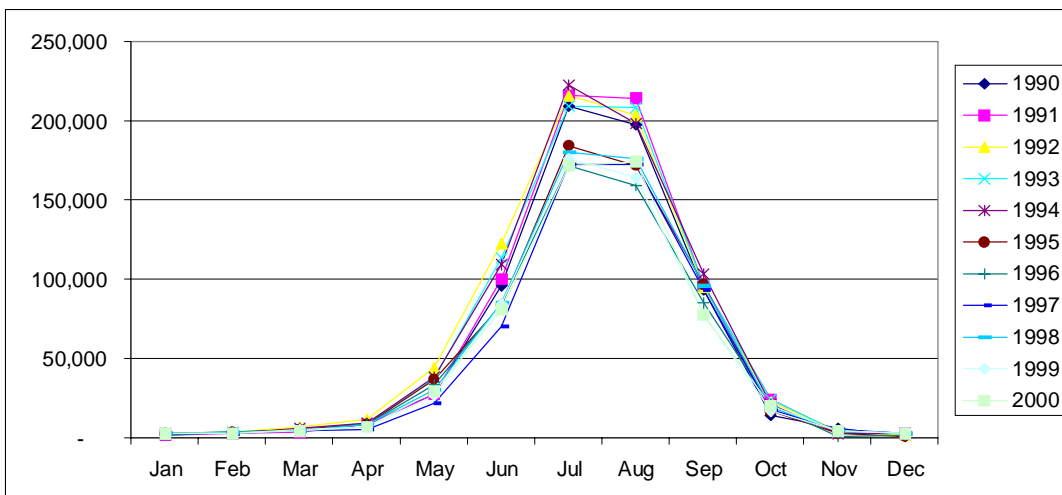


Figure H-1: Multi-year Comparison of Visitor Vehicles* Entering the Park, by Month
 * Excluding park, concession, and service vehicles

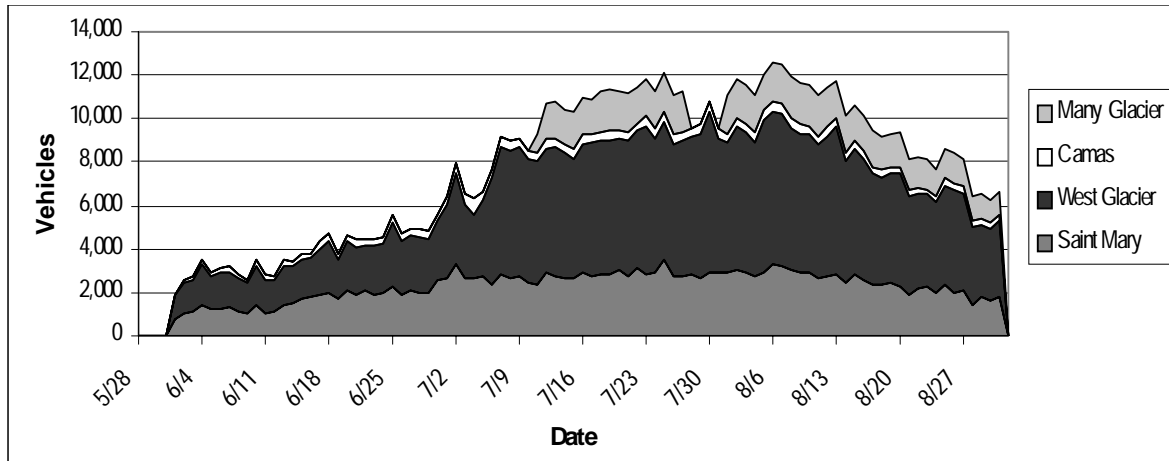
Appendix H: Visitor Traffic Statistics and Trends

Visitation normally occurs in July and the first three weeks of August. As demonstrated in Table H-1, these two months consistently represent between 55 percent and 60 percent of the park's total annual visitation.

Table H-1: Peak Season and Annual Visitation for West Glacier and St. Mary Entrances

Year	Jul + Aug Visitors Both Gates	Jul + Aug Vehicles Both Gates	Total Yearly Visitation Both Gates	Total Park Visitation	Total Yearly Vehicles Both Gates	Total Park Vehicles	% Total Year Visitation for July+August
1990	756,030	260,700	1,258,310	1,986,988	433,900	685,168	60.1%
1991	827,367	285,299	1,383,470	2,096,966	477,059	723,092	59.8%
1992	797,268	274,920	1,422,776	2,199,767	490,612	758,540	56.0%
1993	774,089	266,927	1,383,835	2,141,704	477,184	738,519	55.9%
1994	778,145	268,326	1,403,923	2,152,989	484,111	742,410	55.4%
1995	683,937	235,840	1,225,298	1,839,518	422,517	634,317	55.8%
1996	632,370	218,059	1,149,805	1,720,805	396,484	593,381	55.0%
1997	664,356	229,088	1,166,232	1,708,856	402,149	589,261	57.0%
1998	662,666	228,506	1,237,517	1,830,944	426,730	631,360	53.5%
1999	634,799	218,896	1,159,242	1,706,103	399,739	588,311	54.8%
2000	643,420	221,869	1,143,133	1,728,633	394,184	596,080	56.3%
Average	714,041	246,221	1,266,686	2,111,327	436,788	661,858	56.4%

Figure H-2 offers a more detailed view of the daily data for the year 2000. This graph shows that Glacier National Park reached the height of peak season in early August, though incomplete data due to malfunctioning traffic counters make trends at Many Glacier difficult to decipher. St. Mary and Camas showed much less seasonal peaking than West Glacier, which rises from 1,137 vehicles on June 1 to a peak of 7,363 vehicles on July 30. St. Mary reached its peak of 3,286 on August 6, while Camas topped at 1,950 on August 8. At most locations, the park experienced spikes of vehicle traffic on Sundays throughout the season. Visitation varied relatively little during the other days of the week (the x-axis of the graph has tick marks on Sundays for visualization of this behavior). Glacier Park, Inc. shuttle operators report three to four times the demand for hiker shuttles on weekend days compared to weekdays, which suggests a probable high local visitation on the weekends. Locals are more likely to be familiar with the shuttle system.



Vehicle Volumes for 2000, by Location

Data shown represent total vehicle volumes entering and exiting, including park, concession, and service vehicles.

Many Glacier shows volumes of zero when traffic counters malfunctioned.

Hours of visitation remained relatively constant through the season for the summer of 2000, according to Figure H-4: Time of Day Distribution by Month for Summer 2000. Based on these data, Glacier should be able to plan reconstruction work hours for the Going-to-the-Sun Road with an idea of when demand for the park, as a whole, will wax and wane throughout the day.

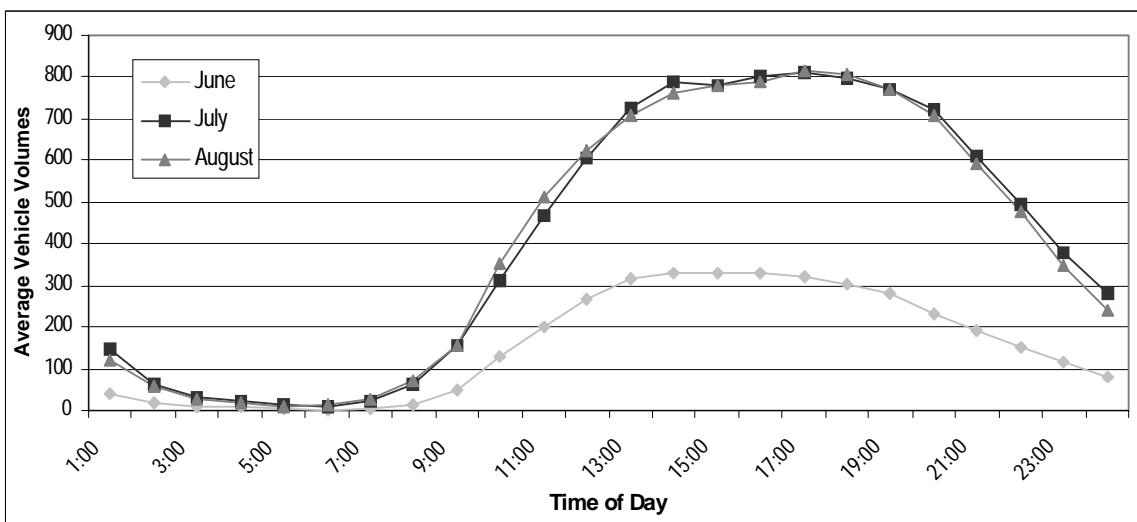
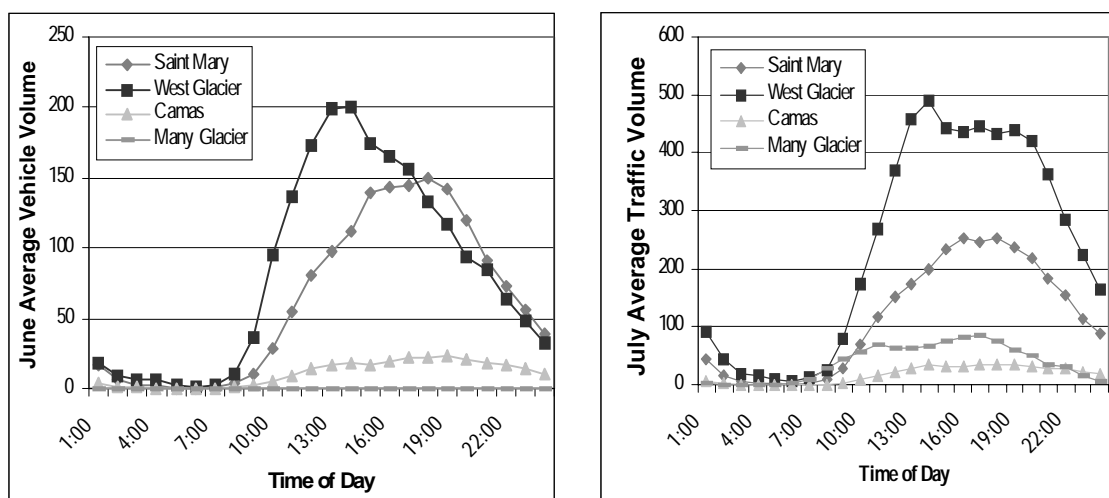


Figure H-3: Time of Day Distribution by Month, Summer 2000

Data represent total vehicle volumes entering and exiting, including park, concession, and service vehicles

Appendix H: Visitor Traffic Statistics and Trends

Some variation does occur by location. Glacier has used a rule of thumb that says the peak hours of the day fall between 10:00 a.m. and 3:00 p.m. Data for 2000 suggest the upswing in activity begins at 10:00, but vehicle activity continues well into the evening. The two graphs in Figure H-4 demonstrate varying patterns of traffic circulation throughout the day based on location and by month. In June, West Glacier experiences a peak for vehicle entrances in the early afternoon, then traffic volumes decrease throughout the afternoon. In July, volumes peak in the early afternoon, then a second smaller peak occurs in the late afternoon. The data suggest that vehicles entering the park from the West in June cross the Going-to-the-Sun Road and exit the park on the east, while late season vehicles are more likely to exit from the west in the afternoon. When examining these graphs, the difference in y-axis scale should be



noted.

Figure H-4: Time of Day Distribution by Location, June and July 2000

Data represent total vehicle volumes both entering and exiting, including park, concession, and service vehicles

Figure H-5 shows the flow of traffic in and out of the park. A noticeable upswing of vehicles in the park begins at 8:00 a.m. The tallest bar shows that the peak number of vehicles enters at 2:00 p.m., but vehicles leaving in the early afternoon put the peak net gain at 1:00 p.m., as indicated by the high point (+193 vehicles) on the net gain trendline. The cumulative trendline, indicating the number of vehicles remaining in the park throughout the day, shows that vehicle activity within the park peaks at

3:00 p.m. (+844 vehicles) and remains strong into the evening hours. This trendline does not account for vehicles that started the day within the park boundaries for camping and hotel stays. A net gain of vehicles continues until 4:00 p.m., at which point the hourly net vehicle gain goes negative. The graph indicates a negative net volume at St. Mary starting during the noon hour when 77 vehicles leave and only 73 vehicles enter. West Glacier welcomed a greater number of vehicles (+223 vehicles) at 5:00 p.m. than it released (-191 vehicles); by 6:00 p.m., West Glacier had more vehicles exiting than entering. Vehicle counts by road segment would help to show where these new entrants are going, so construction planning can accommodate them to the greatest extent possible.

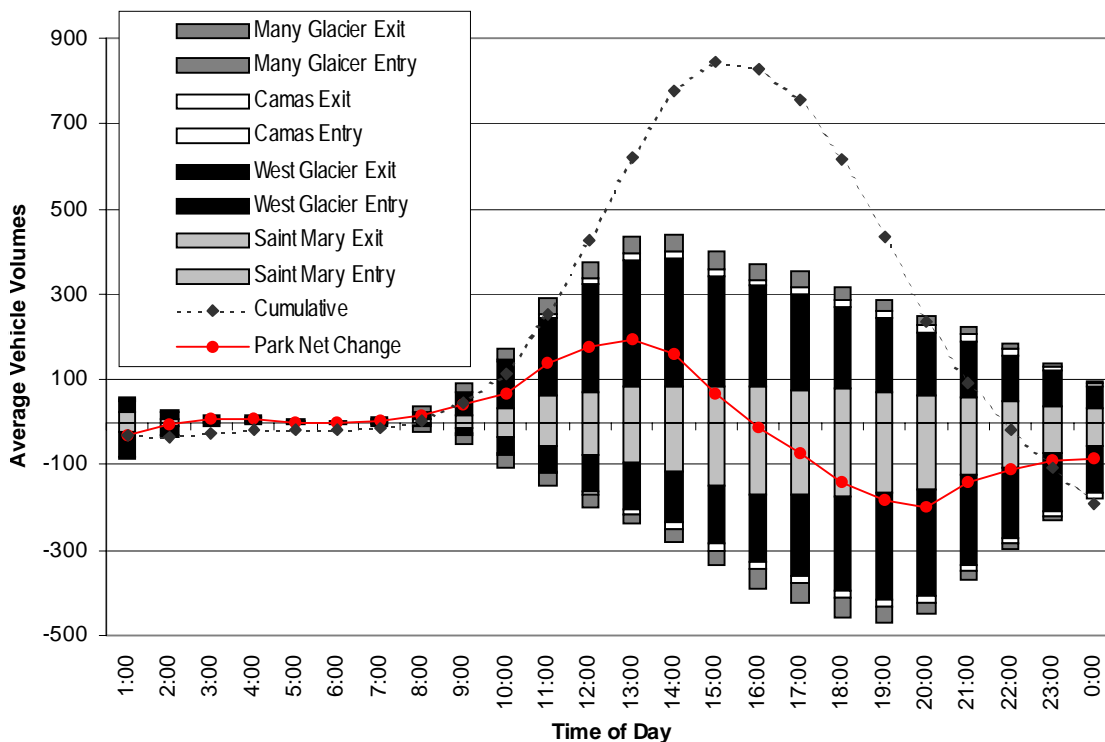


Figure H-5: Vehicle Entrances and Exits by Time of Day and Location, July 2000
*Data represent total vehicle volumes entering and exiting,
including park, concession, and service vehicles*